THE VETERINARY RECORD

A Weekly Journal for the Profession.

No. 318. SATURDAY, AUGUST 11, 1894. Vol. VII.

Disappearance of the Anthrax Bacillus.

Last week we referred in this column to a very important leaflet which has been widely distributed by the Royal Agricultural Society, and we gave a full extract pointing out how the anthrax bacillus disappeared from the blood very shortly after death.

It has been pointed out to us that although the statements in the leaflet may be accepted as correct they are distinctly novel, and the facts have only been discovered in the laboratory of the Royal Veterinary College during the last three months. It is true that this statement is made in the leaflet in so many words, but stock-owners may not notice it, and a conclusion may be drawn that the veterinary surgeon has been guilty of some ignorance or neglect in having made post-mortem examinations on fatal cases of anthrax and in having forwarded portions of spleen to pathologists for verification of diagnosis. Of course no such charge is implied, but any possibility of misunderstanding might have been avoided if the leaflet had more prominently pointed out that a recent advance in scientific work had shown that a change of procedure would be advisable. For years past the Board of Agriculture and the veterinary colleges have encouraged the sending of portions of spleen for examination, and it might have been better if the new facts had been thoroughly communicated to the veterinary practitioner before sending to stock-owners a warning against the old practice. Most men acquainted with the dangers of anthrax-infected blood will prefer to send an ear or foot from a suspected animal, to removing the spleen and forwarding a portion of it. All this applies when we have recognised the case as one of anthrax, but there are many cases in which suspicion may only be aroused as the result of a post-mortem examination. It can hardly be expected that a post-mortem on every animal found dead should be postponed until its ear has been forwarded to a pathologist and a reply received. Neither have we arrived yet at the stage of general knowledge when every practitioner may be trusted to diagnose anthrax by microscopical examination.

The disappearance of the bacillus in an uncut carcase is an instructive and interesting fact, and enforces the advisability of burying all dead animals which we are sure died of anthrax, without cutting the skin. It also shows the very great convenience and the pathological necessity of sending ears or feet instead of viscera when a diagnosis has to be made or verified.

We do not think the leaflet will do any harm to the veterinary profession, and it will certainly draw attention to an important discovery having a very practical application.

Chemical Analysis of Foods.

The case of "dog-tooth" pea poisoning related by Mr. Slidders this week emphasises the real value of chemical analysis of foods when the chemist has no practical experience of the use of the article. These "peas" were analysed and the man of science said they were highly nitrogenous and a good food. In the Bristol trial two chemists gave evidence and both appeared for the defence. One of them—the least known—said he had widely recommended *lathyrus sativus* as a good food for cattle or pigs. Everyone now knows that they are poisonous to horses, but it ought to be equally widely known that they have poisoned pigs. How many pigs have been killed by "Indian pea-meal" or by common pea-meal, adulterated as it is acknowledged to be with ground *lathyrus*, will never be known. Liverpool appears to be the chief port to which this poisonous adulterant is imported, and the only reason for its being brought into the country is for "mixing with pea-meal." Our merchants are really an impartial lot of men. They buy and sell and trouble not a jot what the article is or what its effects. They supply the natives of foreign countries with gun barrels made from gas pipes, with new grain spirit, and with bibles. They also supply their own countrymen with a poisonous grain and call it food.

No doubt "business is business" and it is wrong to interfere with the trade of the country; but science is science, and professional experts have no right to go beyond their tether. An analyst may say a substance is nitrogenous but has no right to conclude it is nutritive. He may state its chemical constitution, but he knows nothing of its physiological action. No man, unless he be acquainted with both these aspects of a substance, has any right to call it a food, much less to recommend its use.

The Institute of Preventive Medicine and the London County Council.

At a recent meeting of the London County Council, says *The Lancet*, the General Purposes Committee reported that they had considered a memorial urging the Council to prevent the erection of the Institute in Chelsea, or in any other place under their jurisdiction. The Committee were of opinion that the Council had no power to interfere, and recommended that the memorialists be so informed. An amendment was moved "that, as the erection of such an institute was a danger to the public health of London it should, if required, be erected in a sparsely populated neighbourhood." In the course of the discussion it was stated that the Medical Officer of the Council was of opinion that there was no danger to health from such an institute, and yet the amendment was only lost by two votes in a meeting of eighty-four persons. This is a remarkable attitude towards scientific medicine to be presented by such a large representative local body. The combination of anti-vivisection and ignorance is a greater danger to progress than we ever dreamed of.

CASES AND ARTICLES.

LAPAROTOMY.

By Thomas C. Garry, M.R.C.V.S.

June 26th, 1894, 9 a.m. Called to see a bay carriage gelding with symptoms of colic. No great pain, simply uneasiness, gave usual treatment, enemas, etc. Explored per rectum; found nothing.

6 p.m. Repeated the treatment, again explored per rectum; no result.

June 27th. 8 o'clock, horse in more pain, breathing more heavily, membranes slightly congested. Again explored per rectum; found nothing.

Mid-day. On exploring again per rectum, could now detect a calculus upon which I could get the tips of my fingers but could not move it. After repeated attempts, had the horse thrown and placed under chloroform, and the fore parts then elevated considerably by trusses of straw placed under them, but still unable to get the stone away. By this time there was some thickening of the mucous membrane of the bowel which made the difficulty of removal per rectum greater. Finding now the case was hopeless, I interviewed the owner, a doctor, and on explaining the case to him got permission to operate, and an offer of his assistance which was gladly accepted. We first cut the hair as short as possible over the left flank, then well washed the parts with soap and water, and then with hydrarg. perchlor, half-grain to an ounce. The instruments—scalpels, needles, forceps, director, etc.—all were immersed for some minutes in boiling water.

6.30. p.m. Having thrown the horse and administered chloroform, a vertical incision was made in the flank, and the skin, panniculus, fat, and fibres of the external oblique cut across. There was now some capillary hæmorrhage and also from two veins, which latter had to be ligatured, and the capillary hæmorrhage arrested by application of pledgets of cotton wool wrung out of hot water. The fibres then of the internal oblique were separated instead of using the knife, and having reached the peritoneum, again we halted to arrest any hæmorrhage. This done we broke through the peritoneum, having made an incision large enough I placed my arm within the abdomen and readily found the calculus. Here good fortune awaited us, for I was able by manipulation to pass the calculus along the gut, and it was removed readily per rectum by my partner (Mr. Cheesman) so that no incision was made in the gut at all. So far good.

Suturing the peritoneum to peritoneum was then proceeded with. This presented a little difficulty owing to the depth of the wound, but a continuous suture was at length got in. Muscle was then sutured to muscle and skin to skin by interrupted sutures. The horse was then allowed to come out of chloroform.

About 10 p.m. he got up, and after standing for a little while walked with assistance into the stable. He drank freely and eat a little hay from the hand. The horse was now breathing heavily, pulse weak, membranes congested, temp. 103. We administered brandy and eggs every half-hour throughout the night, but about 12 hours after operating the horse expired from collapse.

Post-mortem examination revealed considerable inflammation of rectum, intestines generally congested, peritonitis to a limited extent just around the incision. Lungs and liver and kidneys much congested, fibrinous ante-mortem clot in the heart, three other calculi in large colon.

Notes. 1. Operation evidently left too long. Had we discovered the calculus earlier and operated earlier there might have been some hope.

2. Considerable difficulty is experienced in operating at the flank, owing to the extent of muscular tissue, and consequent depth of wound and difficulty in drainage; and also having to cut across at least one set of muscles, there is considerable capillary hæmorrhage.

3. The vertical incision I think was wrong and would have been better obliquely made.

4. In cases where operation seems necessary and horse almost in a state of collapse, would it be practicable to make an artificial anus, as is done, I believe, in human colotomy, by making an incision through the linea alba, and stitching the cœcum to the opening, and after adhesion has taken place owing to the inflammation set up, make an opening into the gut and allow the fæces to come away, and so relieve the general congestion and ward off the threatened collapse. Then afterwards, say 24 hours, operate for the calculus.

"DOG TOOTH" PEA POISONING.

By J. Powrie Slidders, M.R.C.V.S.

The following cases of poisoning by the "dog tooth" pea or vetch came under my notice in the practice of Mr. Macgregor, V.S., Bedlington, to whom I am assistant. The symptoms recorded in the course of the proceedings recently raised by the Bristol Tramway Company against Weston and Co. gave me the key to these peculiar cases.

The horses and ponies attacked belong to two colliery companies under one management.

On the 27th March we were called to No. 1 colliery and were there greeted with the announcement that the ponies and horses down below were tumbling down, staggering about as if under the influence of alcohol while at work, and even more especially on the way from work at night. This was the sole symptom of disorder at that time, and a most careful examination of the animals said to be affected failed to bring any other sign or symptom of ill health to our notice. Pulse, temperature, respiration, mucous membranes all practically normal, and no disturbance of any of the normal functions could be detected save that in one or two of the worst cases the animals could be sent staggering by a slight push.

Close inquiry into the feeding revealed the fact that a new and rather strange pea had been used in the food mixture in place of beans for nearly a fortnight. The horsekeepers said the ponies did not

seem to relish this pea, and indeed nearly half a bushel of them were taken from some mangers afterwards. These peas, flattened, wedge-shaped, looking almost like the crown of a human incisor tooth, were totally unlike any feeding that has been used at the colliery for a long time, and the fact of the symptoms detailed above following so closely on their advent into the feeding mixture made us suspicious of their wholesomeness, and the quantity used in each batch of food was ordered to be decreased.

The tumbling about continued for a month before any sign of abatement could be discerned, and by that time the horses employed above ground and the farm horses on the colliery farm were all more or less affected, the latter showing swellings of the legs simulating lymphangitis. The stock at this colliery both above and below ground were in a very bad state at this time; listless, dull, unthrifty, and generally used up, when the most alarming symptoms began to manifest themselves. A pony would be going along quietly at work, or more likely coming from work, when he would suddenly begin to gasp for breath; he would stand for a minute or two with nose protruded, eyes staring, flanks heaving like bellows, and emitting a peculiar strident gasping whistle; he might when thus attacked recover almost immediately, or more often he would fall down and struggle for some minutes, then recover all at once, and go on apparently all right, except that his flanks continued to heave for some time afterwards.

On June 13th two ponies died on their way from work, the cause of death in both cases being asphyxia, and the post-mortem in both cases revealed the lungs intensely congested, bronchi, trachea, and nasal passages filled with bloody spume and froth, the remaining viscera apparently quite healthy (the brain and cord were not examined).

On June 29th one of the farm horses going at light work dropped suddenly in the field and died before he could be got home, the post-mortem showed the same condition of things as in the ponies. I saw this horse half-an-hour after he died and found blood oozing from his nostrils, but this was the only case where actual bleeding from the nostrils was observed.

On July 8th a pony below ground was seized with a paroxysm coming from work, and on my arrival at the pit three hours after he had been first noticed to be ill, I found him standing feeding quietly as if nothing were wrong with him; pulse 50, full and soft, temperature 100 4/5, respiration a little hurried, which I ascribed rather to the heat of the stable than to any internal cause. Two days later this pony was again seized, and died before he could be got to the stable. Post-mortem examination showed the same condition as in the other cases, and the bowels in this case showed typhoid lesion, Peyers patches very much enlarged, three of these patches measured each about 3 inches long by about 1¼ inch in diameter, almost filling up the lumen of the bowel. The bowels were not inflamed, they simply showed this peculiar enlargement of Peyers patches.

This was the last death, but several animals have had severe attacks of dyspnœa since and have recovered. The last case I have notes of was a 12 hands pony; the peculiar choking or gasping was not so apparent but the dyspnœa lasted much longer; on the day he was taken ill his temperature was 100 3/5ths, pulse 54, full, soft, and easily compressible, respirations 42 per minute.

At colliery No. 2 all the cobs and ponies were affected with one or two exceptions. They tumbled about in much the same manner during the first stage of the disease as did the animals at No. 1, but the various attacks in the second stage were much milder, and very much resembled the last case I have recorded at No. 1. There were no deaths at this colliery.

The feeding at these collieries when the peas were first introduced was made up as follows:—

No. 1 Colliery.		No. 2 Colliery.	
Peas	90	Peas	72
Maize	85	Maize	76½
Oats	60	Oats	78
Chopped Hay	66	Chopped Hay	128

The quantity of peas used in each batch was lessened at both collieries, the quantity of oats being proportionately increased after nearly a month's use of the above mixture.

I may state that a sample of the peas was sent to a chemist for analysis by the head manager of these collieries, and as far as I can learn the analyst's report was simply that they were of a highly nitrogenous character and eminently suitable for feeding purposes. Of course that proves nothing, for the poison may be of such a nature as to elude detection even by the most elaborate method of analysis now at the chemist's command.

[We have to thank Mr. Slidders for a sample of the "peas." They are not the Indian tare known as "mutter peas" or as *Lathyrus Sativus*. They are a much larger vetch, and the same colour as white peas. They are said to be grown in the Baltic provinces. From more than one source there is evidence that they are quite as dangerous as the "tares" that killed the Bristol horses. They might be easily overlooked in a sample of white peas if not added in too large proportion. Our readers will do well to keep an eye on these "dog tooth" peas, which are not a bit like a dog's tooth—they more nearly resemble a child's incisor, minus the fang.—Ed.]

A FILLY WITH NO UTERUS.

By R. Cockburn, M.R.C.V.S.

In May last I was requested to see a two year old well-bred roadster filly, belonging to a medical man in this town. I found that when this filly was in the recumbent position there was always a small reddish tumour of a pear shape, about the size of a man's closed fist, hanging out of the vulva. On introducing the hand and pushing back this tumour I found the vagina terminated in a *cul de sac*, which my closed fist nearly filled. There was no os uteri or any other passage. The tumour consisted of this blind sac falling backward and out of the vulva. I reported to the owner, who was greatly interested in the case as he had never heard of such a thing before. I proposed to leave it alone, as it was no inconvenience to the filly, only appearing when she lay

down, but it gradually got larger and finally hung constantly out, and soon became inflamed from contact with the air and the movements of the tail. The weight and position of the tumour interfered with micturition—she was constantly straining, and the urine dribbled away in drops. When I saw this state of things I passed the catheter and found the bladder was all right. Then I gently pulled out the tumour, put a ligature round it and removed the whole of it, which allowed her to urinate freely. I injected a little antiseptic fluid every day, and beyond a little straining occasionally there was no untoward symptom. The ligature and slough came away in due time and the filly has done well.

This is such a rare occurrence that I have no doubt it will be of interest to your numerous readers.

VETERINARY SOCIETIES.

EASTERN COUNTIES VETERINARY MEDICAL ASSOCIATION.

The 33rd half-yearly meeting of the Association was held on Tuesday, July 17th, 1894, at the Bell Hotel, Norwich, and was largely attended by members from Norfolk, Suffolk, and Essex.

Prior to the business meeting and the medical discussions, the president, Mr. T. E. Auger, of Wymondham, entertained the members to a *recherché* luncheon with wine, followed by choice dessert. The president occupied the chair, and Mr. F. Case, of Swaffham, filled the vice-chair. At the conclusion of the repast Mr. F. Low, Norwich, gave "The Health of the President," which was enthusiastically honoured.

At the meeting which followed the president was again in the chair, and the gentlemen present were—Messrs. J. Pollock, Norwich; J. D. Overed, Blofield; F. Case, Swaffham; S. Smith, Lowestoft; Dr. R. J. Mills, Norwich; W. Shipley, jun., Yarmouth (hon. secretary); A. S. Auger, Saxmundham; J. Thurston and J. R. Gooch, Holt; P. Turner, Ixworth; H. F. Downe, Norwich; G. C. Hunting, Stalham; R. Barcham, North Walsham; T. E. Barcham, Paston; E. Margarson, Swaffham; C. E. Norgate, Yarmouth; J. D. Allman, London; H. Buckenham, Harleston; J. Clubbe, East Rudham; W. R. Howes, W. Mills, and F. Low, Norwich.

Mr. Overed moved, and Mr. Gooch seconded, that the minutes of the last meeting be taken as read. This was agreed to *nem. con.*

On the proposition of Mr. A. S. Auger, seconded by Mr. Thurston, Mr. Westgate, of Attleborough, was elected a member.

The Hon. Sec. stated that he had received letters of regret at inability to attend from Sir H. Simpson, Prof. Axe, Dr. Beverley, Dr. G. Fleming, Dr. Burton, Mr. T. Greaves, Mr. A. E. Shorten, Prof. McFadyean, Mr. F. W. Wragg, Mr. W. Bower and others.

Insurance Inspection Fees.

The Hon. Sec. stated that he had written to the veterinary societies of England in regard to the fees for inspections for insurance companies. He had received the following letters which he read.

"Lincolnshire Veterinary Medical Society,
Market Deeping, July 7th, 1894.

Re Horse Insurance Fees.

Dear Sir,—I am instructed by my Society to say that they do not see any good likely to result from a combination for an increase of these fees. They are of opinion that the V.S.'s will be found ready to examine for the existing fees, an addition to which would naturally result in an increase of the premiums which are already sufficient high.—

I am, sir, yours very truly,
J. A. Robinson."

"Royal Veterinary College,
Camden Town, N.W.
June 12th, 1894.

Dear Sir,—Your letter dated June 11th duly to hand. The meetings of the R.V. College are not held again until October so that I am unable to obtain an expression of opinion from the members until then. I will, however, bring the matter before them at the earliest opportunity. Personally, I myself have for a long time been of opinion that the fees are too small, in fact ridiculously so, compared with the amount of responsibility incurred, and I should very much like to see an improvement made in this direction. Trusting that this effort of the Eastern Counties Association will meet with the unanimous approval of all the other veterinary medical associations and that matters will thereby be brought to a satisfactory conclusion.—I remain, yours faithfully,

Fredk. Hobday,
Hon. Sec. College V.M.A."

There was no discussion on this subject.

The Society's Instruments.

Mr. Gooch, in accordance with the notice given, rose to move "That any worn out or damaged instruments belonging to the Society be replaced, and that it is advisable to add new Instruments to those already in the possession of the Society, and that the members be kept informed where the instruments are kept. "It would, he said, be in their recollection that at the last meeting he drew attention to the difficulty of getting the instruments belonging to the Society. On inquiry he was informed that some of them were out, and no one seemed to know exactly where they were kept or to whom to apply for them. He therefore gave notice that he should ask for a list of them.

The Hon. Sec. said that 14 or 15 years ago the Society purchased some instruments, a list of which he read. He had tried to find out all about them and everything was there that was given into his charge.

Mr. Low said that the instruments had been in his possession from the first. Two years ago it was decided that Mr. Kitchin, who was president, should take them, and they were sent to him but some one borrowed the tooth shears, and instead of returning them to Mr. Kitchin sent them to him. So it had gone on since; they were always returned to him. He did not understand Mr. Gooch saying nobody knew where they were, because it was always known that they were in his possession. If anyone wrote for the instruments he had always sent them off by the earliest train. At the same time it might be better if they were in the hands of whoever was President being handed over to him when he took office.

Mr. Overed said he thought the motion very necessary and desirable. They were now in a very good position financially, and it was generally agreed that the instruments they had had been of very great service to the members. If the number of instruments could be increased it would be a great accommodation, and benefit. There had been little difficulties as he found once or twice, but he had always had a courteous intimation from Mr. Low that the instruments required were not in his hands. He thought they should be kept in some central place, like Norwich, which would be most convenient for the largest number of members. He was glad the operations of the Association had been exten-

ded, and pleased to see members present from a distance. Of course their convenience must be consulted.

The HON. SEC., referring to the instruments said the tooth shears was a very heavy and formidable instrument; it was not necessary to have one so strong. He had one much lighter which was handier to use. They should look over the old instruments some of which were out-of-date and renew them, or get fresh ones. As to Farmer Miles ropes, was it necessary for them to take care of a lot of old ropes which probably they would never use. Farmer Miles' operations were only carried on by specialists, and there were not many who operated on rigs. They did not want to get a lot of instruments that they only required once in a life-time, rather let them have something useful and get rid of the old stock, starting afresh with another lot. £14 or £15 was spent on their instruments when bought. Before deciding to buy thermo-cauteries they ought to see what the cost would be.

Mr. TURNER asked if there had been much call for the instruments.

Mr. LOW replied that he did not think any member had asked for them during the last three months. They had been used within the last six months.

Mr. GOOCH considered that they should not buy instruments they frequently used because these they were sure to possess. It was only the instruments they wanted occasionally which should be in the hands of the Society—instruments for operations that they were not often called upon to perform.

Mr. POLLOCK moved as an amendment that the matter be referred to Committee to report to next meeting on the number of instruments it was advisable to add to their collection and their cost.

Mr. LOW hoped the whole meeting would be allowed to choose the instruments, as members would know better than the Committee what they wanted.

The HON. SEC. pointed out that the Committee would present a list and then the instruments could be voted upon separately.

Mr. OVERED said that if any gentleman desired to have a particular instrument he could write to the Committee recommending it.

The PRESIDENT then put the amendment which was carried and Mr. Gooch withdrew his proposal.

ADDITIONAL MEETINGS.

The HON. SEC. said that there would not be another meeting until February, and several gentlemen had asked him to fix another before Christmas. They could only hold two ordinary meetings, in February and July, but they could if members desired hold a special meeting in September or November. At the next meeting he intended to propose that they have four meetings in a year instead of two. Their district was a big one; they had had two consecutive meetings at Norwich and now they ought to hold one in Suffolk or Essex, or where the Suffolk and Essex members could get to easily. He would be pleased to see a meeting before Christmas.

Mr. OVERED said that when the Association was started they tried quarterly meetings but after a time this was found to be rather too many. Of course the district did not then extend so far but they might now with advantage have one or two more meetings in the year. To test the feeling of members he moved that there be three meetings during the year in future to give an opportunity for holding one each in Norfolk, Suffolk, and Essex.

Mr. TURNER suggested the advisability of holding the meetings at the seaside at Yarmouth or Lowestoft as an extra inducement to members to attend.

Mr. THURSTON seconded Mr. Overed's proposal.

Mr. A. S. AUGER and Mr. BUCKENHAM both advocated holding the next meeting at Yarmouth.

Mr. LOW moved that the place of meeting be Ipswich for the convenience of the Suffolk members.

The PRESIDENT seconded this believing that they ought to meet in the different counties alternately.

The HON. SEC. took the same view and urged the claims of Ipswich. He believed their gatherings should be social as well as scientific.

Mr. TURNER said he would like to see a meeting at Bury St. Edmunds. Several veterinary surgeons round there would become members if they had a meeting there.

On a vote being taken it was decided to hold a meeting in September at Yarmouth.

WOUNDS AND THEIR TREATMENT.

By Professor ALMOND, of Chelmsford.

The subject it is now my privilege to introduce for consideration and discussion by your members is one of the greatest importance to veterinary surgeons, their clients and patients; it is one that is daily engaging the attention of our profession, and about which we now have much exact knowledge that may be tested from day to day.

The treatment of wounds is a branch of practice of the usefulness of which there can be no doubt, and both learned and ignorant are alike impressed with the utility and pecuniary advantage of engaging skilled help when such occasion arises.

It is not my intention to read you a paper elaborately describing the various kinds of wounds, with which all are well acquainted and from time to time have to deal, nor to enter into an academical discussion of the various modes of healing; nature is a great restorer and it has been said that life is the best antiseptic, with these influences we must all from time to time been impressed. The question with which we must concern ourselves is the nature of the hindrances that interfere with the healing, and how these may be prevented or removed. Since the invitation to introduce this subject reached me I have been looking into some of the text books at our disposal, and have been struck by the evident mystery and darkness in which, till comparatively recent times, the changes which take place in wounds have been involved, and the different feeling with which the treatment of a wound was then, and is now undertaken. We may for a moment refer to the discoveries of Pasteur, the confirmations of Tindal, the applications of Lister, and those who have followed those great pioneers. Had not Pasteur proved to the scientific world that the various ferments were living organisms, that putrefaction was due to allied organisms, and that without such neither putrefaction nor fermentation could occur; Lister could never have made the famous deduction that has revolutionised modern surgery, which deduction, nine years later, Lister handsomely acknowledged was based upon Pasteur's work. The old theories have given place to principles, of which cleanliness is the basis; "laudable pus" is now almost unheard of in connection with wounds, and what our fathers tried to bring about the modern surgeon would be almost ashamed of.

We propose now to offer a few remarks as to the means to be adopted and the principles on which to proceed in order to obtain aseptic results in our wounds, surgical or otherwise inflicted. The matter divides itself into two heads, first avoid the introduction into the wound of material capable of inducing septic changes in it, and secondly to dress the wound in such a manner as to prevent the subsequent entrance of septic mischief in such a form as to gain a foothold. The complicated methods formerly adopted to attain these results have with increasing knowledge been much simplified, and fear of the ordinary germs floating in the air have lost

their terror. Formerly it was believed the normal blood serum was a good hatching ground for all kinds of germs, but it is now known that it is not by any means a favourable soil for the growth of bacteria, provided they are in an attenuated condition and not in too strong a dose; this has been experimentally proved in the following manner. Blood was drawn with antiseptic precautions from a horse and ox into purified stoppered bottles and placed in a stove at the temperature of the human body, and was found to remain permanently unaltered, but when the tip of a very fine needle was dipped in already putrified blood and allowed to touch the blood in one of the bottles the bottle being again placed in the stove, to an absolute certainty within twenty-four hours the blood was foul and putrid throughout. But if instead of applying the putrid blood in substance it is mixed with an abundance of sterilised water, so as to diffuse the bacteria widely, at the same time washing them of their products, it was found that a small drop of this diluted putrid blood, although containing abundance of bacteria, fails for days together to induce putrefaction; the grossly putrid material—so to speak—inevitably causes putrefaction in the blood, but the washed and widely diffused bacteria are unable to do so. The above has very important bearing upon, and negatives the assertion so frequently heard, that any attempt in the direction of asepsis is useless under the conditions in which we have to treat our patients. Then there is another even more important point and that is, that the living animal body has the power of defending itself against microbes introduced into it; chiefly as it appears by the process of phagocytosis, which Metchnikoff has revealed, so that if the micro-organisms are not introduced in too large a dose they are consumed by the wandering cells.

These two great truths then have been taught us by advancing science, that normal serum is not a good soil for the development of attenuated microbes and that bacteria introduced among the tissues, if not in too concentrated a form are disposed of by phagocytosis. The result is that microbes in the form in which they are usually present in the air are unable to develop in our wounds, and thus we are able to disregard in our operations the once dreaded atmospheric dust. What we have to attend to is to prevent the entrance into wounds during operations and when otherwise caused of the grosser forms of septic mischief such, for instance, as exist in impure sponges, on dirty instruments, or in any unclean material upon our hands, or other thing likely to come in contact with the wound; for we should always bear in mind that if wounds suppurate and otherwise do not do well the mischief has been introduced or gained access from the outside; because repair, when the conditions of repair are present, goes steadily on, it being only an adaptation and extension of the physiological process of nutrition, usually attended with neither pain nor inflammation. Formerly it was thought that inflammation was a necessary consequence of a wound, but that "bugbear" of the past has now been demonstrated to be due to the agency of micro-organisms, and instead of helping repair, repair takes place in spite of it. This may be a proper place to discuss briefly the best means of purifying sponges and other things likely to be brought in contact with wounds, and Lister tells us there is after all nothing better than carbolic acid, although there was a time, when, in consequence of Koch's publications on the subject of corosive sublimate, it to a large extent displaced carbolic acid in the practice of surgeons; Lister further tells us that Koch, able as he is, was misled on a certain point which caused him greatly to exaggerate the germicidal power of corosive sublimate, and that in truth it is for surgical purposes very inferior to a solution of carbolic acid in water. It seems that what we have to deal with as hinderers of the healing process in the shape of microbes are almost exclusively sporeless micrococci. One of the most resistant of these—the staphylococcus pyogenes aureus—a very common cause of suppuration, is very resisting; but it has been shown that in such solutions as would be used in the treatment of wounds carbolic acid destroys the organism much more rapidly than corrosive sublimate does, this has been found true also of the spores of the tubercle bacillus. A solution of carbolic acid in water one in twenty may be depended upon for the disinfection of such articles as sponges, instruments, the hands etc. etc., likely otherwise to contaminate wounds if brought in contact with them. While carbolic is more trustworthy as a germicide for surgical purposes than corrosive sublimate it is in other respects greatly to be preferred; carbolic acid has a powerful affinity for the epidermis and mingles with fatty materials in any proportion, while the perchloride cannot penetrate into anything greasy.

Iodoform is an agent very much trusted by some surgeons, and it may be as well to review some of its peculiarities. It appears to have very little influence over the growth of bacteria outside the body; this was illustrated by a very simple experiment performed by Lister many years ago; he took two purified stoppered bottles and put into one of them cotton wool strongly impregnated with iodoform—10 per cent. iodoform wool—and into the other ordinary absorbent wool, he then poured milk into each, just sufficient to soak the mass of cotton, and left them at the temperature of the air; the milk soured in both bottles and when the iodoform wool was examined the milk which it contained was teeming with bacteria of different species; this experiment shows how little iodoform affects microbes outside the body. Another experiment discovered that if iodoform be dusted over sterilized cultivating jelly in a test tube growth will take place from organisms contained in the iodoform itself; but though such is the case it is nevertheless quite true that iodoform exercises a most powerful antiseptic influence upon wounds. Behring's explanation of this apparent anomaly is probably the correct one, namely, that iodoform produces its beneficial effects, not by acting directly upon bacteria but by inducing chemical changes in their toxic products. Behring has ascertained as a matter of fact that some of these toxines are altered chemically by iodoform and at the same time rendered harmless. The following experiments performed by him in conjunction with De Ruyter illustrates this. A ptomaine obtained from a culture of pyogenic micrococci killed a mouse in twelve hours when injected pure into the peritoneal cavity, but proved entirely harmless under similar circumstances when mixed with a little iodoform. Again a sample of decomposing pus which had fatal effects when introduced unmixed into the peritoneum of the mouse, had no influence whatever upon the health of the animal if treated with iodoform, which meanwhile left intact the pyogenic microbes. These experiments strengthen the view that in the absence of their toxic products bacteria can do little harm and are probably soon disposed of by phagocytosis. This enables us to understand how iodoform dusted over the cut surfaces of a wound may have great antiseptic efficacy, more especially as it remains for a long time unconsumed among the tissues, and is remarkably free from irritating properties. In circumstances where we find it impossible to exclude septic agencies iodoform is especially useful, and it is in the interior of the wound that the virtues of iodoform are displayed.

In surgery the typical external antiseptic dressing to be ideally perfect should have four essential qualities. It should contain some thoroughly trustworthy antiseptic ingredient; it should have that substance so stored up that it connot be dissipated to a dangerous degree before the dressing is changed; it should be entirely unirritat-

ing; and it should be capable of freely absorbing any blood and serum that may ooze from the wound. Much time and labour has been expended in producing such a dressing; the most satisfactory in all respects being a gauze charged with the double cyanide of mercury and zinc. For the smaller animals that come under our care it may be used with advantage, but for the larger animals it is hardly likely to come into general use. As an antiseptic Sir Joseph Lister speaks most highly of the virtues of the double cyanide of mercury and zinc; thus in one experiment some serum of horse's blood containing 1/5000th part of the salt remained clear and odourless for more than a fortnight at the temperature of the body, in spite of inoculation with putrid material; and even 1/10000th parts prevented all growth for ten days, he further says that when mixed with serum and corpuscles it prevents putrefaction in smaller quantities than any other antiseptic with which he is acquainted. (Composition 4 $ZnCy_2$ $HgCy_2$ Prof. Dunstan.)

The greater the amount of albuminoid substances present in any solution the more severely is the antiseptic tested; and when the red corpuscles are mingled with the serum, as is the case in the first twenty-four hours after the infliction of a wound, a much larger amount of the antiseptic is needed than with serum only; Lister found four times more of the perchloride was required to prevent putrefaction in serum and corpuscles than in serum alone, and that the double cyanide answers the purpose in half the quantity that is necessary with corrosive sublimate. As an illustration of the practical value of this material he mentions the following experiment. He packed a piece of glass tube with gauze charged with a 3 o/o of the double salt, and poured into it serum and corpuscles obtained by whipping pigs blood he then inoculated one end of the saturated gauze with a drop of septic serum and kept it at the temperature of the body, with provisions for preventing evaporation; after the lapse of five days he found the entire mass of gauze pure in odour and without bacteria development as tested by microscopic examination, meanwhile a piece of unprepared gauze similarly treated showed bacteric development within twenty-four hours.

We may pause here for a moment to impress our minds with the practical application of these experiments, namely the extreme importance of the treatment of wounds during the first twenty-four hours: that is at the first and second dressings, when that highly putrescible mixture blood and serum is usually found in them. In considering the use of antiseptic agents it will be necessary to keep in mind the essential difference between germicidal and inhibitory power, that is to say between the capability of destroying the life of microbes and that of preventing their growth while the agent remains in contact with them. The double cyanide of mercury and zinc while admirable as an inhibitor is very feeble as a germicide, and Lister, to destroy any living microbes that might be in its meshes, treats the gauge before using it with a 1 in 20 solution of carbolic acid. We have his authority for stating that the gauze so treated may be absolutely trusted for excluding mischievous microbes, it contains the antiseptic element excellently stored up, it does not irritate, and it is all that can be desired as an absorbing power. In ordinary every-day practice very good results with minor wounds may be obtained by their thorough irrigation with a 2 per cent. solution of carbolic acid in water.

In conclusion it may be observed that when a wound has been inflicted, surgically or otherwise, the tendency and immediate re-action is towards repair. If a clean incised wound healing may take place by first intention, that is to say a small quantity of serum exudes which dries, and as it were mechanically glues the edges together, and is rapidly converted into a living bond of union by the process of organisation. This result may be prevented by bleeding, by the superficial or deep-seated separation of the surfaces of the wounds, often caused by blood or serosity forcing the surfaces apart. Movement, often so difficult to prevent in our patients, is also a great hindrance to healing. Irritation also prevents this result whether caused by medicinal applications, septic agencies, presence of foreign bodies, or swelling and consequent tension.

The desired end may be advanced by arrest of bleeding; thorough cleansing and disinfection of wounds; drainage of wound if extensive at least for twenty-four hours; apposition of surfaces of wound, deep seated as well as superficial, for otherwise the imprisoned fluid will afford a medium for the development of bacteria—rest is here an important factor; prevention of entrance of septic and infective organisms. Pressure is also an important aid to repair, by preventing swelling and the accompanying tension and pain. When uniform it promotes circulation and prevents congestion, which, by depriving the tissues of fresh arterial blood debilitates and makes them less resistant to adverse agencies. By following out these principles we should be able to save our patients from such destructive diseases as "septic intoxication," septicœmia, pyemia, tetanus, etc., all, as we now know, more or less preventable according to the period at which the patient is brought under treatment and the attention he receives at the hands of the, too often unskilful, attendants.

We as veterinary surgeons can place our patients upon the road to recovery, but unfortunately success is sometimes prevented by the untrained nurses who have charge of them, but we may act so as to be able to say with Addison—

> "'Tis not in mortals to command success,
> But we'll do more, Sempronius; we'll deserve it."

The PRESIDENT said that they had listened to the Professor's paper with a very considerable amount of pleasure. There was plenty of food for discussion in it and he hoped to have a good discussion.

Dr. MILLS (Honorary Associate) said he did not quite understand the conditions under which horses and other animals were usually treated, and he did not know the difficulties they encountered in treating wounds. He could only speak really of wounds in human beings though he was aware that the healing of wounds in human beings was somewhat similar to that in animals. He quite agreed that while surgeons might do all they possibly could for the healing of wounds yet their work was constantly undone by the unskilfulness of nurses or other attendants who had to look after wounds. Of course they could not themselves do all the dressings and these must be left to others. As to drugs he was not aware that carbolic acid was the coming drug in England as a disinfectant and germicide in the treatment of wounds. Doctors could not use carbolic acid if a wound was extensive because they found that it was absorbed and occasionally caused poisoning, as exhibited in an inflammatory affection of the kidneys. Absorption also takes place with corrosive sublimate. Now surgeons used iodide of mercury, strength 1 in 1000 which they found preferable to corrosive sublimate. The general tendency in the treatment of wounds was to render everything as aseptic as possible to prevent inoculation into the wound of poisonous materials. They trusted rather to cleanliness in the initial operation and getting rid of all dirty materials. They allowed the blood to flow so as to form a sort of glue to hold the surfaces of the wound together, and if they could got it healed by first intention; where they had clean incised wounds 90 per cent. of the operations healed by first intention. In hospitals they had the atmosphere kept as clean as possible, free from morbid particles and sewer gas. He did not know whether stables were rendered aseptic; they were not in Norwich. They did not use sponges but cotton wool

rendered aseptic by dry heat or steam, which was destroyed after use. They did not use the same sponge again because they thought it was impossible to practically make a sponge aseptic after once used. Doctors did not use carbolic acid but perchloride of mercury.

The HON. SEC., said that what veterinary surgeons had to consider was how to get the best practical results not only scientifically but pecuniarily. Professor Almond had not said much about dry dressings in the shape of starch, iodoform, or salicylic acid. He had used these very often, got good results, and his clients liked using them very much. One must consider the feelings of one's clients. The great percentage of wounds they had to treat were wounds of the extremities, legs, knees, injuries to the heels, and sores. He had found that many veterinary surgeons in cases of injuries to limbs kept the horses tied up for a long time, and yet found that they took a long time to heal. On the other hand he had often got the best results in such cases from exercise. In treating wounds one had to consider the external conditions in which animals were living as well as medicinal treatment. Exercise he often found of great benefit in the treatment of wounds of the extremities. It was impossible to put their patients into a perfect state of rest and the benefit from exercise was the prevention of swelling in limbs, which hindered the healing of wounds. They had always known perchloride of mercury was a great antiseptic, looking to the treatment by shepherds, to the facts that agriculturists always carried pieces in their pockets to touch a wound or injury with it. Carbolic acid they were told stood first, and without doubt it was a splendid antiseptic. Unfortunately for them very many of their clients knew as much about treating wounds with carbolic acid as they did. Some veterinary surgeons used carbolised oil as part of their daily practice, while others were quite against it. It was a great question whether carbolised oil was an antiseptic at all; he had been taught and always believed that it was not. He would like to hear the Professor's opinion upon that. Gallons of carbolised oil were used in the country; part was supplied by veterinary surgeons and part by chemists, and he believed it was no antiseptic. A doctor to whom he mentioned the matter agreed with him that it was really useless as an antiseptic.

Mr. A. S. AUGER recommended a solution of permanganate of potash as a valuable antiseptic. A little piece of cotton wool, dipped in that, and bound with cotton wool, was often sufficient dressing for simple wounds. Wounds in the extremities had baffled him very considerably. He had tried iodoform, and several other things but he found nothing equal to a saturated solution of sulphate of zinc, and had injected it for pedal bone injury. He had better results from this than any other remedy. These cases were very trying because the part they had to treat was so much exposed to septic influences. It was possible to avoid these by guarding the foot with a plate or some waterproof material.

Mr. LOW said the question of the treatment of wounds was a very wide subject. With regard to antiseptic treatment it was necessary that it should be carried out, but in their patients they very seldom got healing by first intention. They often had very large wounds which required a great deal to heal them, and fill them up as it were. He found it necessary to use a good strong application to stimulate granulation. In broken knees they had large wounds to be filled up. The old dressing which had been used hundreds of years was a most useful one in operations for poll-evil, and fistulous withers. He liked to use the old black dressing of turpentine, oil, and sulphuric acid. Some might think him behindhand in advising such treatment because it was old fashioned, but his experience was that nothing promoted healthy granulation so well as that. For many of their wounds that was what they wanted. Professor Almond had not touched upon the suturing of wounds, which was very important with their patients. It was necessary to avoid as far as possible a large blemish, and suturing in the early stages was very important. Different kinds of sutures might be used but he found that there was nothing got the edges of wounds together so well as pin sutures. In the treat of wounds to the eyelid, if the edges were drawn together by pin sutures they got healing by first intention. It they drew the edges of the wound together by an ordinary ligature of thread or a metallic suture they found that it did not keep in sufficiently long for the wound to get together, and there was suppuration, so that they had to cut the lid off, or something of that kind, which left a very bad blemish. In large wounds on the body he found that if they drew the wound together by pin sutures it would keep together for a long time, and they would get favourable results without a large blemish. He had listened to Professor Almond's paper with a very great deal of pleasure, and he felt that they were all indebted to him for opening the subject.

Mr. ALLMAN called attention to a new preparation known as thioform, an odourless substitute for iodoform. He read the following descriptive statement in relation to it. "The opinion of Prof L. Hoffman that thioform, the new basic bismuth salt of dithio-salicylic acid, would prove a valuable substitute for iodoform as a non-poisonous dessicative antiseptic for the treatment of wounds, has been confirmed by the experience of a number of physicians and veterinary surgeons. Indeed, not only has it answered in every detail to the favourable opinion expressed in regard to it, but its extended use has revealed a number of excellent qualities overlooked before which makes thioform appear destined to do away with iodoform entirely. As compared with iodoform the most striking characteristics are: its freedom from odour and from toxic properties, and its superior dessicative action. In various veterinary schools in which it has been employed, Thioform has completed supplanted iodoform, and is used exclusively in all cases in preference to the latter." In a later publication Prof. Hoffman calls attention to one or two new cases to which thioform has been put in which it has shown an especially favourable action. A very valuable Ulmer dog was sent to the Wiesbaden clinic with a history of continual emaciation and frequent bloody stools which had so reduced the dog in strength that he could scarcely walk. Opiates and bismuth salicylate being unsuccessful, thioform was given in large doses, at first two drachms daily together with milk diet. It was a great success, for on the second day the bloody stools ceased, and the appetite returned so that more solid food was soon given, and in five weeks the dog was in perfect health and strength. In a second and still more difficult case the thioform treatment effected an equally surprising and rapid improvement, with restoration of the normal body-weight and general conditions. Also in milder cases thioform has since been regularly administered with great success, so that Prof. Hoffman is able to recommend it as a valuable remedy against affections of the stomach and intestines accompanied with fermentation. It is an excellent antiseptic vulnerary for wounds of the eyes and eyelids. The employment of thioform for dusting into the conjunctival sac in cases of conjunctivitis and keratitis has already introduced the remedy into ophthalmic practice. The characters of thioform that make it specially suitable for this purpose are: that it does not cause irritation, it can be finely powdered, and it is not hygroscopic, and therefore the powder retains the extreme fineness and consistence which is found necessary for ophthalmic use to avoid irritation. An instance of the good results obtained with the remedy in eye surgery is given of a valuable

horse that had extensively torn and lacerated the eyelids in a stall during the night. The eyeball and cornea were also injured, and the whole locality in a dirty and infected state. After cleansing and sewing the lacerations, the whole was thickly powdered with thioform; when dressed after five days the wounds were dry and healing well. On the ninth day the healing was complete. Favourable results have also been obtained with thioform treatment in veterinary practice by Dr. Jelkmann, veterinary surgeon of Frankfort, who has used it (*Berliner Thierarztliche Wochenschrift* 1894, No. 2) in hundreds of cases on horses of the local tramway company. Compared with iodoform it far surpassed it in healing qualities. Thioform is especially suitable for dressing wounds and ulcers, and in purulent inflammation of the pastern. In gangrenous processes of the skin of the coronet and fetlock it is the remedy. Thioform has not only the advantages of inodorousness but it is also a mild vulnerary, causing little irritation, and dries the wounded or ulcerous surfaces much more quickly than iodoform or dermatol. Unlike many remedies recommended for the antiseptic dusting of wounds it does not form a hard solid cake which covers the wound, and beneath which the secretions collect in larger or smaller quantities. Thioform, forms a supple protective layer, which absorbs the wound serum and allows it to pass away, so that the healing process is generally effected without any formation of pus. It is advisable as Prof. Hoffman recommended to only dust a thin layer of thioform on the wound previously cleansed and well dried. In wounds and ulcerous surfaces with much secretion it is also preferable to change the dressing daily.

Dr. MILLS having shown how to prepare immediately a solution of permanganate of potash, by dropping a few grains into a glass of water,

Mr. A. S. AUGER asked if iodide of mercury was soluble in water, and Dr. Mills replied that it was.

Mr. BUCKENHAM asked what should be used when they had wounds such as they had to make to open an abscess in the way of drainage, and also for dressing. He had been using carbolised oil: although some members had spoken against it, he had never yet had to find fault with it. His defence might be that be generally used it in strong proportions. In relation to sutures he quite agreed with Mr. Low, but for large wounds they must sometimes use something longer than a pin, at least to start with, before they could bring the lips of the wound together. In such a case he used ordinary copper wire dipped in carbolised oil. He found a triangular grooved needle preferable to any other instrument for carrying the wire. If possible he generally brought the lips of the wound together by three or four sutures of this wire, and then brought it up again with perhaps an ordinary needle and thread. The thread he knew would decay in time, but the wire would keep it in position for a few days, and then a few more sutures of wire could be added to take the place of the thread while the old wire sutures could be removed. This sort of treatment was for large wounds, such as were made on a horse's hindquarters by a kick. In the case of cracked heels which were sometimes very troublesome he had found tincture of benzoin, oil and lead very useful, and he had also used chloride of zinc in solution.

Mr. OVERED said he must congratulate the President and the Society upon having secured such a valuable paper. He most fully agreed with the views Professor Almond had expressed. Unfortunately though very desirable in theory they often found in practice that the stables and other places where they had to treat their patients were not in a satisfactory sanitary condition, consequently they had to deal with things as they found them—not as they would like. He agreed with what had been said as to the use of sutures on certain occasions but in other cases gut was preferable. It all depended upon the situation of the wound and its character. If a large muscular wound occurred in any part of the muscular system they had to consider the nature of the wound, to clear out of it all offensive matter, to note whether it was longitudinal or transversely across the muscles, and whether involving a joint or not. In Norfolk they knew nothing about serious and important wounds. What they considered serious were very trivial compared with those horses were subject to in the North; in mines, where they had terrific wounds, where life was just preserved at most by operation, or loss of a limb. What however troubled them most were sinuous wounds. Fortunately they did not have many cases of poll-evil, fistulous withers, or quittor. These cases required great attention. His treatment of sinuous wounds was to get to the bottom of them to remove the decaying material, and then apply a strong antiseptic dressing, not after Mr. Low's method though, and leave it to its own resources. If healthy granulation is brought about the wound would ultimately fill up. He recently had a case of a horse sent to him having severe fistula of the withers and poll evil on the head which he succeeded in securing, chiefly by the use of corrosive sublimate and carbolic acid. With regard to the treatment of open joints, some people swore by sublimate, some by new lime, and various other irritating substances, some by oil of cloves. He had had a great deal of trouble in the treatment of open joints, particularly with the hock. They could keep their patients quiet so far a muscular wounds were concerned, and in wounds not connected with the joints he quite agreed with Mr. Shipley—that moderate exercise was both necessary and beneficial, but for open joints it was of the utmost consequence that the animals should have quiet and rest. That was one of their difficulties. If they were more successful in obtain in obtaining absolute rest they would be more successful in restoring their patients to health again. Sometime since he was called to see a horse that had a wound of some kind, he never knew exactly what it was, or how caused, except that he was told that a man was giving it a draught and the bottle used broke in its mouth. Shortly afterwards it bled profusely from the mouth and the manger was covered with blood. At last the owner got very much alarmed and sent for him. Hs could not see exactly the cause of hæmorrhage and therefore could not apply anything directly to the part. The method he adopted in that case might be successful in a general way. Every time he opened the horse's mouth to examine the source of the hæmorrhage out came a large quantity of blood all over him, and he consequently gave up the attempt and made a large compress of tow. He scattered something over it to make it appear a little scientific and placed it in the horse's jaws. He next strapped the jaws together and let the horse stand for two days and a night fastened to the stall. When he opened the mouth he saw no more of the hæmorrhage. Puncture of the coffin joint in the feet was another difficult thing to treat but he had followed a course of treatment that he had previously mentioned and with one exception been fairly successful.

Mr. GOOCH said that his practice had been to treat ordinary wounds with some ordinary antiseptic dressing, but the wounds giving most trouble were those that involved the joints. Those of the knee and hock he had most difficalty with, but in such cases he thought the best treatment was to place the horse as far as possible quiet, put him in slings and apply plaister over the surface of the joint. The surface round the injury should be plaistered for a considerable distance. In many cases this treatment had a marvellous effect in checking the discharge and causing healthy granulation.

The HON. SEC. asked Prof. Almond what antiseptic he advised for use in the case of injuries to the mouth.

Sometimes they had to deal with an injury to the tongue, with absolutely stinking saliva coming from the mouth. Some of the antiseptics Prof. Almond had mentioned would be rather dangerous to use in such cases. They were taught at college that saliva itself was an antiseptic. He recently had a man severely bitten by a horse, blood poisoning set in, and the doctor advised fomentations with a solution of boracic acid in water.

Mr. Overed observed that he should think boracic acid was very good for the mouth.

Prof. Almond, replying to the discussion, said that as to carbolic acid, he might perhaps have more particularly referred to it as a disinfectant. It was not used direct, and he drew attention to it for the disinfection of instruments and things of that sort. Mr. Mills said he used it for disinfecting gauze, sponges and things of that kind. If veterinary surgeons destroyed a sponge each time they used it, it would be very expensive. Lister's actual method was to throw his sponges into a tank and let them purify, then washed them, disinfecting them with carbolic acid afterwards. This was also true in regard to perchloride of mercury. This was not used directly in large wounds, although a 2 per cent. solution or 5 per cent. for cleansing may be used in the first instance. The practice then is to keep them aseptic as far as possible by covering them with antiseptic gauze or some other agent. Of course cotton wool was used both in human and veterinary practice. They could not have any higher authority than Lister on the subject of asepsis, and he distinctly stated that a 5 per cent. solution, one part of carbolic acid to 20 of water might be absolutely dispended upon. It was of course necessary that these things be washed in the first instance to free them of all gross matters, blood, etc., and that blood is not allowed to dry upon them. Where sponges and instruments have been used and the blood had been allowed to dry upon them, so that it putrified, a longer time was necessary to disinfect them than if the stains were fresh. As to skinning and grafting he was not aware it had ever been practised by veterinary surgeons, although it might be with advantage especially in the case of broken knees, because when the remo/al of skin from the knees had taken place any subsequent similar accident generally inflicted a greater degree of injury than was sustained in the first instance. The condition for skin grafting was simply that the part on which it was placed should be aseptic, that the wound shall be thoroughly and antiseptically cleaned and then the piece of skin placed on it. He believed it would be found to unite, but there must be a granulating surface aseptically clean. There was not much difficulty in applying it, and the treatment should be extremely useful. As to dry dressings there could be no doubt that this was the tendency of the present day, and that good results followed, if in the first instance the wound was rendered aseptic. It was of no use applying dry dressings unless the wound was clean underneath. Where they found deep sinuous cavities beneath the wound, if they were thoroughly dry, dressings might as a rule be put on 48 hours after. They were a great success in broken knees, generally attended with a flow of synovia. Anyone who had an open knee joint to deal with would have a difficult task. It was rare, but he had met with it, and fracture of the small bones of the knee from a fall. Nineteen times out of twenty, however, synovia was due to lacerated sheaths of the tendons over the front of the knee. In the treatment of broken knees, until a wound was clean, and he meant aseptically clean, there would be difficulty with it, but after that it was all clear sailing, provided they could be kept in that condition. His method was first to thoroughly cleanse the knee as far as possible with warm water. Then take a thread suture needle, make a hole right through the pocket of the lower part of the knee, otherwise you cannot get at the dirt and pebbles which hang in the interstices of the loose connective tissue. Then you can rinse in a downward direction all the dirt out of the knee. He spent a considerable time, perhaps half-an-hour or more over one knee. When he considered the knee was practically clean, he placed a bit of cotton wool of considerable size, soaked in carbolic acid (5 per cent, ordinary strength for wounds is 2 or 2½ per cent) on the knee. Then he added another bit of smaller size and he did not touch the wound for 24 hours. After that period he repeated the process and although synovia might flow it would be perfectly sweet, and after this it was not necessary to open the wound again. He used to put a seton through but now he did not find it necessary He got every success he wished by thorough irrigation. If in the first twenty-four hours this was done every six hours, the dressings were renewed before the germination of bacteria has had time to take place. If after 36 hours they liked to apply dry dressings they might do so and get very good results, and if similar treatment was continued it was his experience there was no pain and little or no swelling after the first 24 hours. He had bandaged the lower part of the limb as well as the knee because if the lower part of the limb was left unbandaged it would swell, and congestion of the lower part of the limb hindered the healing of the wound above. It was his experience that broken knees, often very extensive, treated in this way healed without tenderness, or pain, or inconvenience to the animal at all. Mr. Low had suggested the application of a stimulating dressing, but this was contrary to the principles that he should follow in such a case. His own experience, although not so extensive as Mr. Low's, was that if a wound was kept clean—they were all conscious of the difficulty of keeping wounds clean—there was little or no trouble in regard to granulation, and the wound would gradually close up, leaving practically no enlargement of the knee itself. The pulse should not increase five beats a minute, there should be no fever or systematic disturbance whatever, and the animal should eat and drink, as if nothing had happened. Of course its movements were restrained. He had a horse tied up for ten days, after that he might move round his box; and in this way he got very good results. Exercise had assisted the healing of the wounds by reducing the swelling. In his paper he referred to the effect of swelling hindering the healing of wounds, but this swelling might be prevented or reduced when it occurs rather than by exercise. Cracked heel, for instance, the result of a gross condition of body one must deal with in different manner, and it required constitutional as well as local treatment. Carbolised oil could be used to prevent swelling of a limb, but he preferred to do this by bandages. He had no doubt carbolised oil was a very imperfect antiseptic though it had its uses. If smeared over the surface it prevented to some extent other things coming in contact with the surface, also hinders the entrance of and influences certain objects. He did not approve of greasy applications or carbolised oil. He believed it was known that septic germs would actually grow in carbolised oil, (5 per cent. solution). He had sufficient confidence in the ability of the organism itself for the repairing of wounds if they were kept clean. If there was a superabundance of granulations it was due to imperfection in the dressing. Swelling might be reduced by pressure if applied to the part, but it was of no use applying pressure if there was any foreign body in the wound. Mr. Low had said that he applied black oil, made of sulphuric acid and oil, to poll-evil, and that was putting into practice the principles which had been advocated. When these wounds did not heal although an irritant was applied the reason was that there were foreign bodies in them. Applying a caustic agent would have a tendency to destroy the surface of the wound, which would suppurate and come away, and this would enlarge the external orifice. The

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effect would be for the agent which kept the wound open to come away with it. That was one way of opening a wound, whether it was the best mode was a matter of opinion and the result of experience. Sutures he did not mention specifically in his paper, but he did urge as a matter of principle that it was both necessary and desirable to bring the edges of the wounds into apposition, not only the external edges but the deep seated parts. He took it for granted that sutures would be the means employed. Where they got laceration of the muscles it was the practice to suture the muscles as well as the skin. This might be done by carbolised gut which could be left in the wound and not do any harm. Some veterinary surgeons used a very long suture right from the deep seated tissues; this did not matter if the wound was kept clean. If the edges of the wound were brought together it did not matter what was used, though they should select what was the least irritating. For deep seated wounds, unless they intended to close the wound as in the case of severed muscles, metallic sutures were best because there was the least irritation, but they required a plate of leather or some other material to prevent them cutting through the skin, and to take the pressure off. Pin sutures he quite agreed were the best for eyelids. The pin was placed under the edges of the wound and there was pressure above and below which prevented the skin puckering, and the edges got perfectly together. There was only one thing to avoid, that was putting the sutures too tightly so as to strangulate and include the pieces of skin. If this was avoided there was no better mode of closing a superficial, or even deep-seated wound, provided the structures underneath were brought together in the way suggested. As to opening abscesses, the cavity should be thoroughly washed out with an antiseptic. So they would see the principle underlying the treatment of wounds. It was a matter of no importance what agent they used, whether carbolic acid, perchloride of mercury, Condy's fluid, sulphate of zinc, boracic acid, or salicylic acid, provided it is what it professes to be. Having washed out a wound, soak some agent in an antiseptic and fill the cavity with it. In strangles especially it is a great mistake to open wounds too soon, and it is a still greater mistake to allow them to close too soon. If they did not stuff or fill the abscess with an agent soaked in a disinfectant, they should keep the wound open and thoroughly irrigate it with one of the solutions he had suggested. Cracked heels no doubt gave them a good deal of trouble, but he believed a certain amount of benefit was derived in these cases from exercise; but constitutional as well as local treatment was required, a good dose of physic and low diet. His practice was to apply a poultice in the daytime of sulphate of zinc and acetate of lead precipitate form at night followed by diuretics. Then let them have a moderate amount of exercise and they do fairly well. As to the insanitary condition of stables, mentioned by Mr. Overed, they were all well acquainted with that, but although this was so there were many reasons why they should adopt antiseptics, which might prevent worse troubles coming. Sinuous wounds were most troublesome though a wound was not troublesome simply because it happened to be sinuous, but because there was septic material in it, and until that was removed they would have sinuous wounds. The first principle of treatment was to open the wound in some way so as to remove the septic material. It might be a piece of dead cartilage or tendon, or a piece of dead bone which must come out before the wound would heal. They had to adopt those means which the true principles of treatment would suggest, namely to introduce agents which had a tendency to open the wound and destroy the septic material in it by applying perchloride of mercury, and caustic. Open joints they all had trouble with. Once a joint became septic it was doubtful whether any good would attend their treatment, but here again the same principles must be followed. The wound must be rendered clean and kept clean. What was true of other wounds was also true of open joints. Some veterinary surgeons seemed to have more success with one antiseptic than with others. For punctures of the coffin joint and of the foot the same treatment should be adopted. His practice in dealing with a suppurating condition of the foot was to open the wound sufficiently to get an outlet, not larger than necessary and he always injected some antiseptic agent, it did not matter what. He also put the animal's foot into water rendered aseptic, generally with impure carbolic acid, and allowed the foot to remain in it from half-an-hour to an hour. This was rather important because it had a tendency to allow the discharge to work out into the water, and also gave opportunity for the antiseptic fluid to soak into the foot. He did not poultice in such a case, but continued to irrigate by means of a glass syringe. He did not like metal syringes for perchloride of mercury, and he always closed the wound with a pad of some kind soaked in disinfectant, but if possible he put it into a poultice boot. For the mouth there was nothing better than alum or boracic acid. For washing out a horse's mouth he generally used a sprinkling of alum, powder or solution.

Mr. A. S. AUGER referred to a case of fistula of the sub-maxillary gland which he had found very troublesome. It had been under treatment for twelve months and he used potash externally, and internally permanganate of potash. The wound was outside between the jaws and a little inclined to the left side.

Prof. ALMOND said that no doubt there was some dead material in it.

Mr. AUGER added that the discharge from the wound was of a fairly healthy character.

The HON. SEC. suggested that the gland might be destroyed.

Mr. AUGER said that the lymphatic gland was affected. It followed on strangles.

Prof. ALMOND advised opening the wound to see if there was anything in it as there might be a piece of wood there. If it was plugged, Mr. Auger must be very careful to get out what he put in. If he laid the wound open he might find out the cause.

The HON. SEC. then proposed a vote of thanks to Prof. Almond for his valuable paper. The professor, he said, as soon as he was asked promised to do what he could for them, and it was very good of him to spare the time to prepare his paper and come to see them. It was in their power to confer a very great honour upon him, that of being honorary associate of that Society, and he was pleased to move that Prof. Almond be elected an hon. associate.

The PRESIDENT seconded this resolution.

Mr. A. S. AUGER speaking in support of it said he thoroughly endorsed all that had been said by their Hon. Sec. He knew Mr. Almond as a student. He was then a most excellent student, and it was gratifying to find that he had turned out a most excellent practitioner.

The resolution was then put to the meeting and carried unanimously.

Prof. ALMOND, in reply, said he thanked them very much for so kindly conferring a great honour upon him. If anything he had said had contributed to their interest in any way he was sufficiently rewarded. He was, however, a practitioner, and although he might read papers he could not lay claim to very much originality. Many of them borrowed from the observations of others, but they could so select ideas from the works of others as to be useful not only to themselves but to other members of the profession. If his efforts had met with success it was certainly a greater reward than he expected.

Mr. OVERED then proposed a vote of thanks to the

President making mention of his handsome hospitality that day.

Mr. POLLOCK in seconding, said that Professor Almond was known in the Association as a new practitioner, but they hoped that he would influence those who were younger to follow in his footsteps. It had given him great pleasure to hear the paper. That was his first appearance as an essayist and he hoped it would not be his last.

The PRESIDENT having replied the meeting ended, and the members took tea together at the hotel.

WM. SHIPLEY, JUN., *Hon. Sec.*

THE CENTRAL VETERINARY MEDICAL SOCIETY.

LEAD POISONING.

By Professor J. WORTLEY AXE.

(Continued from page 85.)

Chronic Plumbism.—This form of the disease usually commences in slight impairment of the general health, or it may supervene upon an acute attack. Attention is first attracted by an unthrifty condition of the body, and in the case of young ones to their backward state of growth. Food, however generously given, adds little or nothing to their improvement. In these cases the coat is dull and staring, and loaded with scurf. The skin is closely adherent to the parts beneath. The patient is depressed, dull and listless, ill-nourished and languid in its movements. The body is retracted or tucked up, the back is arched, the bowels are constipated, and the fæces dark in colour, and foul smelling. Food is taken with indifference, but beyond these general signs of sickness weeks or months may pass ere anything occurs to specially indicate the natnre of the ailment from which the animal suffers. The next group of symptoms to be observed have reference to the organs of locomotion. In this connection slight stiffness is presented in one or more of the limbs or in the trunk, or may be the body generally. This is succeeded by a diffuse œdematous swelling of the legs, associated with lameness, and a tendency to "knuckle over" in front. The joints become enlarged, hard, and tender to pressure. Painful swellings of the flexor tendons and their sheaths also appear, in consequence of which the animal fears to move, and when made to do so walks on the toes. In young growing animals all the bones of the body suffer more or less enlargement, so much so that the face looses its angular outline, and the limbs become swollen and deformed. In the course of the disease attacks of colic, mostly slight and of brief duration, appear from time to time. Notwithstanding all this, the pulse rate shows but slight disturbance, and may be subnormal. The temperature usually registers about 101°, and the respirations are but slightly increased. The bowels are uniformly constipated and the fæces dark in colour and often glazed.

Post-mortem Changes.—The changes which result from acute lead poisoning, if fairly uniform in their nature, are very variable in degree and also in the seat of their occurrence. They may be summed up in the two words, congestive and hæmorrhagic. In themselves they afford no evidence of the cause out of which the disease arises, and it is only by tangible or chemical recognition of lead or its salts in the organs or tissues that we are able to define with accuracy the origin of the disease. The more obvious pathological changes are mainly present in the digestive organs. Here we find patchy or general congestion in one or all the gastric cavities, accompanied or not by slight hæmorrhagic infiltration of the mucous or submucous tissue. The third and fourth compartments are generally most severely affected. In addition the contents of the omasum are hard and dry, partly as a result of the arrest of secretion and partly also from long retention.

Intestine.—Both the small and large bowels exhibit patchy hyperæmia, with here and there spots of capillary hæmorrhage, and in some cases we have seen considerable tracts of the mucous membrane ploughed up by extravasated blood, and the bowel to contain free and adherent blood clots. This condition, however, is exceptional, and only seen in the most acute forms of the disease. Subperitoneal ecchymoses are sometimes present, and especially in those cases where the intestinal hæmorrhage is considerable.

Liver.—The most striking and constant change in this organ is its pale and apparently anæmic condition. Acute congestive swelling of the gland is seen in some cases. In other instances œdema and softening are also present, and the secreting elements, when microscopically examined, are clouded and granular, and contain more or less globular fat.

Spleen.—The spleen seldom shows any decided pathological change.

Kidneys.—These organs are congested, especially on the cortex.

Brain.—Of several cases in which I have examined the brain, undue fulness of the meningeal vessels was in some of them very pronounced, and with it slight œdema and softening of the nervous tissue also existed. The sub-arachnoid space contains a small amount of straw-coloured fluid.

Heart.—The muscle of the heart is soft and soddened with serous effusion, and the large cardiac veins are filled with black semi-fluid blood. The tissue around and about them is deeply stained. On exposing the cavities of the organ blood blotches more or less extensive are seen beneath the endocardium of the left ventricle, and similar extravasations are sometimes observed beneath the visceral pericardium.

Lungs.—The lungs are dark in colour from venous engorgement, and the pulmonary tissue soon becomes deeply stained after death. The bronchial passages contain frothy mucus, sometimes mixed with blood.

Lesions of Chronic Lead Poisoning.—In this form of plumbism the body is emaciated, and the subcutaneous fat almost entirely removed. The muscles are pale and wasted, and the tissue in some appears to be reduced to connective stroma and wasted fibrils.

Digestive Organs.—The vascular changes observed in the acute form of the disease are seldom seen here. The mucous membrane of the stomach and intestine presents a dull bluish-grey appearance, either throughout its entire extent or in large disconnected patches and tracts. Its peculiar velvety character is considerably modified and the tissue of the membrane is denser and thinner than normal. This thinning would seem to be for the most part due to an atrophied state of the glandular follicles of the mucosa. The lumen of the gut appears to be reduced in circumference, and the muscular coat to be abnormally thickened.

Liver.—The liver in some cases is reduced in size, pale in colour, and firmer in consistence than in health, but in other cases no perceptible change could be recognised in it.

Kidneys.—In these organs the capsule first claims attention. Here we notice considerable opacity of the membrane as well as more or less thickening. On attempting to remove it, it is found to be firmly adherent to the renal structure, and the strands of connective tissue which unite the one to the other are increased both in density and thickness. Externally viewed the organ itself is pale in colour and of firm consistence, and generally reduced in size. On section the cortex presents

a dirty grey appearance. It is besides much thinner than in health, and distinctly cirrhotic.

Spleen.—The spleen is atrophied, and its capsule pale and puckered.

Tendons.—The tendons and their sheaths, especially those of the fore extremity, are more or less thickened, sometimes generally from end to end, at others in certain parts only between the knee and fetlock-joint. The subcutaneous tissue in the last-named regions also appears in excess.

Joints.—The large joints, such as the carpus and tarsus, and sometimes the smaller ones, contain an excess of synovia, and the secreting membrane is hyperæmic and more or less thickened. The connecting ligaments are also in many instances much enlarged; the encrusting cartilage is spongy and reduced in thickness, sometimes removed at numerous points or even in small patches.

Bones.—The periosteum is more or less vascular and less dense than in health. The bones are enlarged throughout the body and soft. In the long bones the enlargement is especially marked in the epiphyses. When stripped of their periosteum the compact structure of the bone is seen to be porous. That near to the epiphyses is reduced to a mere shell. On section much of the cancellated structure is found to have disappeared, and the medulla has lost its ordinary fatty character, and become reduced to a gelatinous pulp. The pathological changes in this disorder frequently fail to indicate its true nature, but careful inspection of the contents of the stomach, and particularly of the second compartment will, as a rule, afford absolute proof. Here may frequently be found bullet spray, tea lead, or some other form of the metal. In its absence pieces of paint of various hues, of the consistency of putty, are often present in abundance, or white or red lead is observed incorporated with the ingesta, or forming a dirty white or red coating over the mucous membrane of the stomach and bowels.

Lead on entering the system is deposited in many, if not in all the organs of the body, from which it is eliminated by various emunctories. It has been found to pass away chiefly by the urine, but the mammary gland as well as the cutaneous glands also participate in the operation of excretion. Once established in the tissues it is slow to leave them, and months may elapse ere it is removed from the system.

With reference to treatment, there would appear to be two main objects to fulfil; (1) to remove from the digestive canal any existing lead or lead compounds; (2) to promote the activity of such organs as are known to be channels of elimination by agents which have an affinity for the poison.

As to the first, it may be observed that there are no known means by which metallic lead can be removed *en masse* from the stomach of the cow. In this animal it is invariably found in the reticulum; and although its removal may sometimes take place in the ordinary course of digestion, I am not aware of any method by which this can be expedited. There is no such difficulty in regard to the horse: firstly, because he seldom swallows metallic lead; and secondly, because the simple construction of the stomach does not permit of its being retained there should he by chance do so.

No such impediment as we have referred to stands in the way of removal of salts of the metal, and in prescribing an agent for this purpose it is desirable to select one which will serve the double purpose of promoting purgation and at the same time reduce the soluble salt to an insoluble compound. Sulphate of magnesia has the reputation of effecting these two purposes; but inasmuch as the bowels in these cases are stubbornly torpid, we have been in the habit of combining with the magnesium sulphate such an amount of aloes as will insure a prompt and free action of the bowels. This should be followed up by small doses of the sulphate every four hours, or a weak solution of sulphuric acid in linseed gruel may be administered in its stead. In cases where coma exists bloodletting may be resorted to sometimes with advantage, and an ice-water douche to the head is desirable as a means of relieving the cerebral congestion.

The cutaneous circulation should be promoted by an abundance of clothing. Every part of the body should be covered with rugs and bandages, while at the same time an ample allowance of fresh air should be provided. I attach considerable importance to the observance of this item in the treatment of lead poisoning. When the alimentary canal has been freely acted upon, iodide of potassium in half-ounce doses twice a day may be commenced, and continued for a week or ten days. At the expiration of this time an interval of a few days may be allowed to elapse, when the agent may be resumed again if necessary, and continue to be used periodically so long as symptoms of plumbism are presented. In those instances where cerebral excitement becomes a feature of the disease bromide of potassium should be promptly administered in conjunction with the iodide, the quantity of the former being diminished according to the amount of the latter prescribed. There are, of course, matters of detail in the treatment of the malady in its various stages and complications which require to be considered, but which time does not permit of my pursuing.

(To be continued)

EXTRACTS AND NOTES.

THE OUTBREAK OF GLANDERS IN THE CORK UNION.

Prosecution at Douglas Petty Sessions.

At the Douglas Petty Sessions a prosecution against John Fitzgerald, Copley Street, was heard. The summons was for not reporting a glandered horse.

Mr. R. Rice, S.C.P., Fermoy, prosecuted, and Mr. Wm. Murphy, solicitor, Cork, appeared on behalf of the defendant.

Mr. Rice said the summonses was issued at the suit of District Inspector Creaghe, against John Fitzgerald, Copley Street, in the City of Cork. Mr. Fitzgerald had suffered very severely over the matter, and that prosecution was brought, not so much for the purpose of punishing Mr. Fitzgerald as for the protection of the public. He (Mr. Rice) would now proceed to give evidence in the case, and he would leave it in the hands of the Bench to dispose of the case mildly but firmly, and so set an example that would prevent a repetition of the offence. He would examine Mr. Peard, of Cork, Veterinary Inspector, appointed by the local authority, which was the Cork Board of Guardians. In the 51st section of the Act it was pointed out that the certificate of the veterinary inspector shall be conclusive evidence of the existence of the disease, and no other proof is necessary. He would now produce Mr. Peard's certificate.

Mr. J. H. H. Peard deposed he was veterinary surgeon of the district for the Cork Board of Guardians. He knew Mr. Fitzgerald's farm at Ballyphehane, and in consequence of a report which reached him on the night of the 27th May he went to Mr. Fitzgerald's farm. He (witness) met Mr. Fitzgerald there, and was speaking to

him. Detailing the conversation which took place between them, witness said that he told Mr. Fitzgerald that he came to see some of his horses which were reported to be ill. Mr. Fitzgerald replied that there was one mare which had died from foaling. He saw the carcase of the animal, and she appeared to witness to be a very marked case of glanders. The animal died from glanders, and she was a very marked and manifest case of glanders, and it would appear that it should have been known some days previously.

Mr. Rice said he asked that to show that they did not take Mr. Fitzgerald by surprise.

Cross-examined by Mr. Murphy: Witness said it was a very marked case of glanders to a person who was previously acquainted with the disease, but to a person who never saw the disease before he may not have known it.

Mr. David Prentice, Dublin Castle, deposed that a report of that case was sent to him to the Veterinary Department, Dublin Castle. In consequence of that he visited the farm at Ballyphehane on Monday, 29th May, and saw a dead animal—a bay mare. He (witness) made a post mortem examination of the animal, and considered it a very marked case of glanders and farcy. No man acquainted with glanders and farcy would fail to know the disease because the farcy buds were very plentiful. It certainly should arouse suspicion.

Mr. Wm. Murphy said he admitted that the case was of the utmost public importance, and that the provisions of the statute which were very stringent, and properly so, ought to be observed both for the protection of owners of horses and for the protection of the general public. He (Mr. Murphy) was placed in an unfortunate position as regards that case, because the onus of proof was thrown on him and his client. His client knew nothing of the existence of the disease which, he thought, was a reasonable excuse for his conduct, because Mr. Fitzgerald, who was more vitally concerned than anyone else, if he had known of the existence of the disease would not have concealed it for his own protection. The offence should be weighed by the fact that there was no wilful or deliberate breach of the law, but simply an omission to do a thing of which his client had no knowledge at the time. He did not know how far this fact would weigh with them in giving their decision when he said that the actual loss to Mr. Fitzgerald was £412 on the horses alone, besides the consequential loss in the way of business, and the structural alterations which he would effect in his premises before he brought his horses there again. It would entail enormous loss upon his client, and it may also weigh with them in measuring the penalty.

Mr. O'Grady said in point of fact the defendant pleaded guilty to the charge.

Mr. Murphy said he should plead guilty.

Mr. Mayne said he wished to ask Mr. Peard one or two questions, and in reply Mr. Peard said that that was the first one of Mr. Fitzgerald's horses which was affected. Twenty-two were subsequenty killed.

Mr. Peard also said, in reply to Mr. Mayne, that compensation in these cases covered only half the value, and could not exceed £20 for each animal.

Mr. Murphy said he was glad Mr. Mayne had asked the question, because it would enable him to give the exact figures as regards the loss Mr. Fitzgerald sustained. The amount covered by compensation was £388, while the value of the horses as put down by the inspectors was £800, which left Mr. Fitzgerald at a net loss of £412.

The magistrates having consulted, the chairman said in consideration of the loss that Mr. Fitzgerald had suffered the magistrates would not impose the full penalty. They would fine Mr. Fitzgerald £5 and costs.

DISEASED ANIMALS IN LONDON.

TO THE EDITOR OF THE MORNING POST.

Sir,—Before Parliament closes I should like to draw public attention to this neglected subject through the only available channel. The Contagious Diseases (Animals) Act is here almost a dead letter. The Board of Agriculture propose by a Bill to amend and consolidate it. The consolidation adds little to the intelligibility of the three or four Acts of Parliament upon which have been engrafted some hundreds of orders. No one outside the Board of Agriculture has ever professed to understand all the complicated and detached orders and regulations. Some are enforced by the Board, some are carried out by local authorities, others are not carried out at all. An authority in Lincolnshire has recently declined to put in force the new regulations for swine fever—a disease which is going to cost the taxpayer as much as did the cattle plague 30 years ago. The London County Council absolutely decline to carry out the order relating to glanders—a disease which destroys 2000 horses every year in London, which ruins poor horse-owners by the dozen, and occasionally causes the death of a few human beings. Two years ago Mr. Herbert Gardner, when a scare existed, promised energetic action. Under the advice of his professional advisers, with the full approval of the veterinary profession, and the glad assent of owners of horses, he issued the 1892 order. The London County Council declined to enforce it and it became a dead letter. About six months since the Council persuaded the President of the Board of Agriculture to give them a new order. He did so, and again they threw it back to him. How long shall a County Council dictate to a Government Department? What special knowledge does the Council possess enabling them to know better than the Board of Agriculture what regulations are necessary to stamp out diseases of animals? The Council depends for advice upon its Cattle Diseases Committee—a group of gentlemen neither sportsmen nor large horse-owners. They are destitute of all veterinary advice save what can be picked up by them from outside irresponsible advisers, and yet they determine the action of our Government. The horse-owners of London have protested in vain, the veterinary profession have advised without avail. The ratepayer is mulcted in an annual charge of £6000 for playing with disease under existing regulations, whilst every authority knows that a bold expenditure for a few years would save the annual cost for ever. If the Board of Agriculture dare not compel a local authority to carry out a well considered and generally-approved regulation, their timidity should be made public, and perhaps they may then enforce what they well know is necessary and right.—Yours, &c.,

JOHN ATKINSON, F.R.C.V.S.

The Animals' Institute, Wilton Place.

What is a Veterinary Surgeon?

At the South-Western Police Court, Mr. Charles Davis, acting for Mr. G. Thatcher, solicitor to the Royal College of Veterinary Surgeons, applied to Mr. Rose for a summons against Mr. W. Musgrave, of Lower Richmond Road, Putney, for acting as a veterinary surgeon when not properly qualified. He had on his window, "W. Musgrave. All diseases skilfully treated."—Mr. Rose: Those words did not represent him a veterinary surgeon. —Mr. Davis: Dogs are sent to him in the expectation that they will be "skilfully treated."—Mr. Rose: If a lady dresses a wound would she be considered a doctor? —Mr. Davis: There has been a conviction under similar circumstances. In that case the man called himself

a splint specialist. Mr. Musgrave is not registered.—Mr. Rose: I don't think he is required to be registered.—Mr. Davis: He held himself out to be a veterinary surgeon.—Mr. Rose: He does not say so, and you cannot convict a man for the imagination.—Mr. Davis handed to the magistrate the section of the Act under which he made his application, the words on which he relied being "must be specially qualified to act as such."—Mr. Rose thought Mr. Davis was entitled to have the question discussed, and allowed him to take a summons.

The Deadly Chemist.

"The chemist is infinitely more dangerous than the idiot with an unloaded gun. The prospective victim of the unloaded gun has a chance to reason with the demented creature by flooring him with a chair. Or, he can dodge. Not so with the absent minded chemist's victim, who nourishes his system from a large bottle of kill-me-quick, on which, as on a tombstone, the chemist has written the victim's name and how to take it to produce the undesired effect.

The careless chemist is the enemy of the entire human family, including himself, for it is self-evident that it is a short-sighted policy for a chemist to persist in feeding his cash customers on ratsbane. Our observations confirm a previous impression that after a man has been inserted into a silent tomb he ceases to be a source of revenue to the chemist, or to anybody else except to those who have tombstones to sell. Far beter would it be for the chemist to prolong as indefinitely as possible the lives of customers who buy a pennyworth of tooth-powder for a shilling, and other articles at similar rates.

It is only fair to state that the chemist is not always to blame. The modern doctor persists in following the example of his pre-Adamite predecessors in writing prescriptions in Latin, and in a hand that looks like a Venetian blind that had been twisted by rheumatism and subsequently struck by lightning.

Some of the doctors imagine that because Nepoleon Bonaparte, who was also pretty good at sending people suddenly into the next world, wrote a villainous hand, their writing should also create the impression that it was done in the dark, while they were under the influence of *spiritus frumenti*—but it is a mistake."

Complaint against a Gaoler.

Mr. Prince, V.S., complained to Mr. Denman, at the South Western District Police Court, that Sergeant Randall, the gaoler, refused to allow him to proceed to the yard of the court to examine a horse, on behalf of the owner, the driver of which had been charged with ill-treating it.—Mr. Denman was informed that a V.S. had examined the horse on behalf of the prosecution. Applicant: It is the first time permission has been refused.—Mr. Denman (addressing the applicant): You can examine the horse, certainly.

CORRESPONDENCE.

AN IMPROVED APPARATUS FOR THE ADMINISTRATION OF CHLOROFORM TO HORSES.

SIR,

I have again to trepass on your valuable space, in order to reply to some statements in Mr. Dollar's letter on the above subject, in *The Veterinary Record* of August 4th.

From the commencement of this discussion I have distinctly stated that I claimed no originality either in this principle of chloroform administration, or in bringing out the apparatus, but what I did claim was, that I made such changes in the apparatus, as to render it of practical utility, hence I termed it an "Improved Apparatus."

I leave it to the readers of *The Veterinary Record* to determine whether the apparatus described by Mr. Dollar as invented by Mr. Clarke, in the number of June 30th, possesses any essential difference from the one I described in my first article. I have no desire to evade any point in the discussion, such as Mr. Dollar suggests, and shall be only too pleased to discuss any portion of the subject at length, provided it is of sufficient practical value.

I next come to consider the misrepresentations which I am accused of devoting space to. The term "chloroform vapour" in my letter of the 28th was simply a clerical error, and again repeat that I *never* asked Mr. Dollar for explanations as to the working of the apparatus in question; these were entirely voluntary on his part I quote from his letter of July 14th.

"The points raised by Mr. Hoare are interesting, and though I cannot help thinking that the long time he has spent in making these experiments must have rendered him better qualified to explain them than myself, yet as he has asked for explanation I must even do my best to supply them." Now I raised no points, nor asked for any explanations as to the working of the apparatus in my first letter; I simply stated that the objections which Mr. Dollar found in the trial apparatus, made by Messrs. Krohne and Sesemann, as appeared in his article of June 30th. were entirely removed in the present apparatus. So that it was Mr. Dollar himself, who first departed from the primary subject of discussion.

I again repeat that it is only in very cold weather, and when working the apparatus outside that there is any risk of the watery vapour freezing and interfering with the administration.

The next point in Mr. Dollar's letter is with reference to the meaning of the verb "to perfect" (I did not make use of the adjective). Well my humble opinion is that anyone may "finish" or "complete" an apparatus, or an instrument, but this does not prevent room for improvement.

Finally, I may remark that I have not the slightest intention to question the truthfulness of any correspondent. I simply enquired if Mr. Clarke's apparatus was extensively used in practice, if so by whom, and where it could be obtained, In other words was it a success? The value of an apparatus, must be judged by its employment in daily practice; the one I recommend has been thoroughly tested although I must admit that I have never kept up the third stage of anæsthesia for periods of one to four hours.

Cork, Yours etc.,
August 6th, 1894. E. WALLIS HOARE. F.R.C.V.S.

SIR,

I am in a position to inform Mr. Hoare that Dr. Clarke's Chloroform Apparatus *has* been used in practice, and in fact for five years past I have continually used it to the exclusion of any other form. In 1889 Dr. Clarke very kindly had one made for me embodying several important improvements.

In this apparatus the chloroform vessel is made of copper, so that there is no danger of its being broken nor cracked when placed in warm water, as I invariably use A.C.E. mixture. The bottom of the inlet tube is provided with a disc of gauze which prevents *priming*, and breaks up the air into small bubbles, thus ensuring its being saturated with chloroform vapour. The outlet tube is screened with a disc which acts as as valve to guard against liquid chloroform entering it and being conveyed to the nostril—an accident which might occasion unpleasant results. In practice I have found that no muzzle is required, the outlet tube is simply passed into the animal's nostril, and the strokes of the bellows timed to coincide with the respirations. The apparatus not being fixed to the horse in any way is in no danger of being upset. Under the circumstances I certainly think with Mr. Hoare that the arrangement he describes *can still be more improved*, and if Mr. Hoare occupies the authoritative position on chloroform administration which he so delicately suggests, I can only regret that this triumph of his genius, the *perfected* apparatus, should still show so many and such palpable defects.

Leicester. F. B. JONES.

THE "QUALIFICATION" TEST.

SIR,

Allow me to offer my humble congratulations on the courage with which you have thrown away the Presidential crutches. Former Presidents have grown so accustomed to their legal props that temporary removal of them has now and again been followed by alarming signs of collapse (especially at annual meetings) and in times past our legal adviser has been suspected, not only of enlightening on points of law, but even of doing a little occasional coaching in elocution and the principles of English grammar. As showing the mental atrophy which follows too much dependence on external guidance I might relate a trifling anecdote of an amusing person I met in Italy who enlightened me as to certain of his religious beliefs. The conversation turned on "doubt" and having suggested doubts of the infallibility of the Pope I asked him whether such had never occurred to him, and what he would do if they did?

"Ah!" said he "that is quite simple, I should first make an act of submission stating my unchangeable belief in all that the Church believes and my unalterable acceptance of all that the Church accepts, and then I would examine the question."

And suppose you were convinced that the Pope was fallible? "Oh! well, that would show at once that I must be wrong."

Well, I'm afraid that the Council has been alike too much inclined to set up a legal Pope and "unchangeably believe" and "unalterably accept" all his dicta as infallible—for a better reason, I hope, than my Italian friend's. I myself have lately been the victim of one of the cast-iron decisions. And perhaps I ought to state, by the way, that it is very unfair both to a legal adviser and his client to ask the former for a decision on nice legal points in a hurry, or to ask any question at all whilst at the same time you pretty clearly indicate the sort of answer you require. If the adviser be so unwary as to supply an immediate answer he will have need of more than judicial impartiality to prevent his leaning towards the conclusion required. The point which I raised at last Council meeting had reference to the powers of the R.C.V.S., "to enforce bye-laws requiring students to attend any veterinary college any given time before presenting themselves for examination." I believed as I still believe, that the R.C.V.S., has no such power, and I adduced in proof that not only is no such power specifically mentioned but that it is not even implied.

However ingeniously the Charters may be read nothing more can be got out of them than that we have powers to manage the examinations and safeguard the interests of the body corporate. But certain busybodies (one of whom would have wished, during the Edinburgh disturbances, to disqualify a student for coming up to examination in a tweed suit) were in past times so monstrously blown up with pride of place as to consider their powers illimitable, and I am only surprised that their interference with the student stopped short of regulating the fashion of his necktie or the width of his hat brim. That being so bye-laws were framed absolutely opposed to the spirit of the Charters and Act, and now I am to be told that because this illegality has been permitted in the past it must constitute a precedent for the future.

Can any person reading Mr. Thatcher's speech, on p. 54 of this Journal for July 28th, detect the semblance of an argument in favour of interference with periods of study except this:—"Every time a Charter has been asked for, the Privy Council were acquainted with the bye-laws and regulations then in force, and this was especially the case in the Charter of 1892. The Privy Council by their action in granting that Charter had recognised the validity of the bye-laws and regulations in force at that time."

This is the kind of decision I object to. Here it is laid down that whether these bye-laws were previously legal or illegal, whether they were supported or opposed by Charter previously granted, yet they all became legal because the Privy Council was "made acquainted with them." Well, I have become acquainted with them too—by the painful process of personally reading them—and a more confusing, contradictory, ungrammatical and unbusiness-like collection of statutes it would be difficult to find. Does any common sense person think that the legal advisers of Her Majesty's Privy Council waded through and tried to reconcile these effusions, or that if they did they would trouble themselves to challenge them? I trow not.

They knew much better than that. The Charter supposed to confer these powers says, "And we do hereby further will, grant and declare, that the Council . . . shall and may make any orders, rules, and bye-laws . . . for fixing and determining the times, places, and manner of examining students . . . and for regulating the nature and extent of such examinations . . . and to make new orders, rules and bye-laws in their stead as the Council shall think most proper and expedient *so as the same be not repugnant to these presents or the laws of this our realm.*"

That I interpret to mean that the Council may subdivide and rearrange their powers as they please, *but they must not arrogate to themselves new ones.* Charters were given not only to confer power but to limit it. To say that a charter can confer powers not contained in it is, to my mind, absurd. Bye-laws are legal only in so far as they are backed up by the Charters, if they are opposed to the Charters—so much the worse for the bye-laws. What becomes then of the argument that the "Privy Council by their action in granting that Charter, had recognised the validity of the bye-laws and regulations in force at that time?"

If that argument means anything it means this: "There is no power in the Act or Charter (otherwise it could be pointed out) but the Council in the past exceeded their powers and made illegal bye-laws. These bye-laws became legal when the Privy Council was 'made acquainted with them.' *Ergo* the Council *has* power. But then there is that ugly phrase 'so as the same be not repugnant to these presents or the laws of this our realm.'"

In a very small and insignificant way I feel like Galileo of old who, after signing his recantation of the theory of the earth revolving round the sun, in obedience to the Pope's bull, muttered between his clenched teeth "and yet it moves."

JNO. A. W. DOLLAR.

"COMPLAINING AGAIN."

SIR,

In last week's *Record* is a report of a conviction obtained by the R.C.V.S. against Fredrick Browning, a farrier, of 49 Howard Street, South Hornsey. The official list of shoeing-smiths Registered by the Worshipful Company of Farriers contains the following:—"3213. Browning, F., 49 Howard Street, Stoke Newington, N."

A very large proportion of those who offend against our Act appear to be Registered Shoeing-Smiths. Surely some of our promising Councilmen might endeavour to have the names of those *convicted* removed from the official list.

From some strange cause these reports which appear from time to time scarcely ever show on the face of them that the men who have infringed our rights are nearly always Registered Shoeing-Smiths.

Our Council assists in making quacks to provide its own Registration Committee with work. This condition of affairs is certainly anomalous and to some extent expensive, because the paltry cost allowed cannot pay the College for its out-of-pocket expenses.—Yours truly,

H. G. ROGERS.

COMMUNICATIONS, BOOKS, AND PAPERS RECEIVED:—Capt. Russell, Major W. S. Adams, A.V.D., Messrs. J. Powrie Slidders, E. W. Hoare, F. B. Jones, S. Bailey. *Medical Review* (St. Louis. Mo.,) *Agricultural Journal* (Cape), *East Anglian Daily Times, Prospectus of Chicago Vety. College.*

Original articles and reports should be written on one side only of the paper, and authenticated by the names and addresses of the writers, not necessarily for publication.

We shall be obliged by early intelligence of all matters worth bringing under the notice of the profession, and thankful to any friends who may send us cuttings from local papers, containing facts of interest.

Communications for the Editor to be addressed 20 Fulham Road, S.W.